STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL | 95-14B

INSTRUCTIONS

1. The preparing activity must complete blocks 1,2, 3, and 8. In block 1, both the document number and revision letter should be given.
2. The submitter of this form must complete blocks 4, 5, 6, and 7.
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I RECOMMEND A CHANGE:	1. DOCUMENT NUMBER	2. DOCUMENT DATE (YYMMDD) **970207**

3. DOCUMENT TITLE
TAG REGISTRY

4. NATURE OF CHANGE *(Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)*

This change provides a mechanism to provide the offsets for each image frame with an NITF image. Such information allows readers of NITF files to process the individual image frames in either a random access fashion or in parallel. See attached.

5. REASON FOR RECOMMENDATION
This change request supersedes 95-014A. The rational for this change is a heavy desire for the readers of large NITF files to be able to process the NITF file in a parallel fashion so as to meet performance requirements. As this is a problem which will potentially effect all users of large NITF files, a controlled tag extension for this purpose is proposed.

6. SUBMITTER

a. NAME *(Last, First, Middle Initial)* **Szwarc, Val**	b. ORGANIZATION **Lockheed Martin Corporation**	
c. ADDRESS *(Include Zip Code)*	d. TELEPHONE *(Include Area Code)* (1) Commercial **(610) 531-3390** (2) AUTOVON *(If applicable)*	7. DATE SUBMITTED *(YYMMDD)* **970221**

8. PREPARING ACTIVITY **NATIONAL IMAGERY AND MAPPING AGENCY**

a. NAME	b. TELEPHONE *(Include Area Code)* (1) Commercial (2) AUTOVON
c. ADDRESS *(Include Zip Code)*	**IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT:** Defense Quality and Standardization Office 5203 Leesburg Pike, Suite 1403, Falls Church, VA 22041-3466 Telephone (703) 756-2340 AUTOVON 289-2340

30.2.6 NBLOCA tagged record extension. This tagged extension stores the offset of each image frame relative to each other within a NITF image. The first image frame offset is the number of bytes in the image sub-header. All of the other offsets are the number of bytes in the previous image block or frame.

This extension allows the NITF image to be accessed in a random or parallel fashion by providing the ability to find the offset to the location of the first data byte of any frame or block. This offset is determined by summing the offset values for the previous blocks, and allows direct access to a frame without reading through any portion of the image frames. For JPEG applications, these offsets are to the Start Of Image (SOI) markers which are always the first element for each JPEG compressed frame.

Table B-11 defines the format for the NITF controlled tagged record extension bearing the tag of NBLOCA. This extension is meant to be stored in the NITF image sub-header portion of the NITF file structure.

TABLE B-11: NBLOCA format.
(R) = required, (O) = Optional, and (C) = Conditional

Field	Description	Length (bytes)	Value Range	Type
CETAG	Unique Extension Identifier	6	NBLOCA	R
CEL	Length of CEDATA Fields (See Note 1)	5	00008-99988	R
FRAME_1_ OFFSET	First Image Frame Offset From Beginning of NITF Image Sub-header (See Note 2)	4	(See Note 2)	R
NUMBER_ OF_FRAMES	Number of Blocks For Which Offsets Are Listed	4	(See Note 3)	R
FRAME_2_ OFFSET	Offset in Bytes of the Beginning of the 2nd Image Frame From the Beginning of the 1st Image Frame (see note 5)	4	(see note 4)	C
….	…….	….	….	….
FRAME_N_ OFFSET	Offset in Bytes of the Beginning of the Nth Image Frame From the Beginning of the N-1 Image Frame	4	(see note 4)	C

Notes:

1) This value is dependent upon the number of image frame offsets which are stored in this controlled data extension.
2) Value is stored in 4 byte unsigned binary integer representation with a range of 439 to 999999 (Bounds For Image Subheader Size). This offset is equal to the size of the image subheader. The bytes are ordered from the most significant to the least significant.
3) Value is stored in 4 byte unsigned binary integer representation with a range of 1 to 24996 (Limits due to max size of CETAG). The bytes are ordered from the most significant to the least significant.
4) Value is stored in 4 byte unsigned binary integer representation with a range of 1 to (2**32 - 1). The bytes are ordered from the most significant to the least significant.
5) For JPEG applications, this is the offset between the SOI marker of the 2nd Image Frame from the SOI marker of the 1st Image Frame.